REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated March 31, 2003 (U.S. Patent Office Paper No. 2). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1, 4, 7, 12, 13, 19, and 24 are being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. In addition, new claims 25 and 26 are hereby submitted for consideration.

Prior Art Rejections

Claims 1 through 4, 6, 7, 9, 10, and 12 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Flynn, Jr. (U.S. Patent No. 6,453,392)(further the '392 reference). Applicants respectfully disagree.

The Examiner makes reference to col. 8, lines 51 – 57, same col. lines 65 – 67 and col. 9, lines 1 – 15 as support for his allegation regarding claim 1. Applicants respectfully disagree.

The '392 reference discloses a storage system that controls access requests from a plurality of virtual machines (VMs). After a storage system receives a command issued by one of the VMs, along with requests to RESERVE a direct access storage device (DASD), the reserved DASD is not used by the other VMs till it is released. All VMs can access all DASD if no DASD is reserved or, in other words, all VMs have authorization to access to the DASD. The above specification refers to a system that cannot preserve security. (Please see the Abstract section of the '392 reference).

On the contrary, the storage system that constitutes the object of the present invention receives access commands for a logical volume from a plurality of operating systems, which are executed in a host computer. The system denies to execute the access command when one of the operating systems which issues the access command doesn't have authorization to access the logical volume. Therefore, the system insures security and has the capability to

8

deny access requests from not authorized operating systems even when the logical volume is not reserved.

Claim 1, in its amended form, exhibits this feature of "one of the plurality of OSs identified by said command is authorized to access the logical volume".

Claim 1, in its amended form, possesses features not contemplated by the '392 reference. Therefore, claim 1 is not anticipated by the '392 reference and it is allowable over said reference. Applicants respectfully ask the Examiner to reconsider its position regarding claim 1 and pass this claim to issue.

Claims 2 through 4 depend from and add features to claim 1, an allowable independent claim. Therefore they are allowable for at least the same reasons exhibited above.

Claim 7 of the present invention discloses a virtual private volume control method performed by the apparatus described above in relation to claim 1, that is disclosed by claim 7 as "whether the one of the plurality of OSs identified by said derived ID is authorized to access the logical volume and said server receives said response".

The same arguments made above regarding claim 1 apply to claim 7, that contemplates the feature of preserving the security of the system by allowing access only if "authorized to access the logical volume".

Claim 7 discloses a feature not contemplated by the '392 reference. Therefore claim 7 is not anticipated by this reference and is allowable for at least the arguments made above. Applicants respectfully ask the Examiner to reconsider its position regarding claim 7.

Claims 9 and 10 depend from and add features to an allowable independent claim. Therefore, they are allowable for at least the same reasons and due to their own disclosure.

Claim 12 has been amended to better disclose and emphasize the present invention. Claim 12, in its amended form, contemplates the above mentioned security feature: "for using whether the OS is authorized to access a logical volume which is included in a storage system". This feature differentiates the claim from the disclosure found in the '392 reference, therefore claim 12 is not anticipated by the '392 reference. Applicants respectfully ask the Examiner to withdraw its rejection regarding claim 12 and to pass this claim to issue.

Claims 5, 11, 13 through 19 and 21 through 24 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Flynn, Jr. (U.S. Patent No. 6,453,392) and Ault et al. (U.S. Patent No. 6,192,389)(further the '389 reference).

The Examiner alleges on page 6, section 7 of the Office Action that "Ault discloses the use of ID numbers for identifying the application when processing a request" and makes reference to col. 7, lines 1 – 38 of the reference.

Applicants carefully reviewed the '389 reference and especially the section indicated by the Examiner and can not find disclosure about "the use of ID numbers for identifying the application when processing a request". The reference discloses file descriptors but they refer to client/server techniques and not to storage technology.

The same observation is valid regarding the desirability to combine the two references that constitute the base for the 103(a) rejection. The subject matter disclosed by the present invention pertains to data storage technologies and the subject matter pertaining to the '389 reference refers to client/server techniques.

Therefore, based on the arguments exposed above, Applicants respectfully ask the Examiner to reconsider its position about the claims 13, 19 and 24 and to pass these claims to issue.

Claims 14, 15, 16, and 17 depend from and add features to claim 13, an allowable independent claim, therefore they are allowable for at least the same reasons explained above and for reasons contained therein.

Claims 21, 22, and 23 depend from and add features to claim 19, an allowable independent claim, therefore they are allowable for at least the same reasons and for reasons contained therein.

Claim 5 depends from and adds features to the independent and allowable claim 1, therefore it is allowable for at least the same reasons and for reasons contained therein.

Claim 11 depends from and adds features to the independent and allowable claim 7, therefore it is allowable for at least the same reasons and for reasons contained therein.

Claims 8 and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Flynn, Jr. (U.S. Patent No. 6,453,392) and Ault et al. (U.S. Patent No. 6,192,389) in further view of Firoozmand (U.S. Patent No. 5,488,724).

Applicants respectfully disagree that for one of ordinary skill in the art it would have been obvious and desirable to combine these references. The references disclose different technologies. The present disclosure refers to an invention pertaining to data storage technologies. The Ault reference refers to client/server techniques. The Firoozmand reference discloses network controller related technologies. Due to the above applicant respectfully disagrees that it would have been obvious and desirable to a person of ordinary skill in art to combine the references. Due to these factors Applicants respectfully asks the Examiner to withdraw its rejection regarding claims 8 and 20.
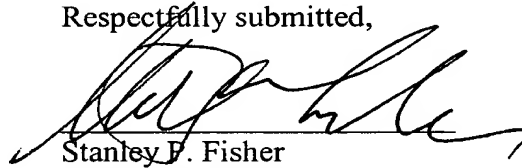
Also, both claims 8 and 20 depend from and add features to independent allowable claims. Therefore, they are allowable for at least the same reasons and for reasons contained therein.

Conclusion

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344

Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042
(703) 641-4200

July 30, 2003